

# INTRODUCTION

I am delighted to introduce this year's project presentations for the Bachelor of Information Technology degree.

The third-year project in the Bachelor of IT is what we call a capstone project. Students prove their skills and knowledge in a real world scenario of providing IT solutions to a customer's problems. This is no mean feat. Working on the project is hard and it involves 450 hours of work. Interaction with the customer and a supervisor is crucial — as it is in the real world.

Project customers usually are real businesses with real business problems, or community groups who need IT solutions to their real world problems. In a few cases Wintec itself is a customer too, and again the problems Wintec puts forward are real world problems.

Thus the IT solutions provided by our third year students are very diverse, challenging and relevant for industry, community and academia.

The presentations provide a platform for students to demonstrate and show off their skills and are the high point of the final year of study. They are also a platform for students and industry to start the networks that may lead to further growth of the digital industries and to future employment.

I offer my congratulations to all students who have put so much time and effort into this work. They can be proud of their success as they prepare to enter the workforce as fully fledged IT professionals.

**KLAUS REITER**

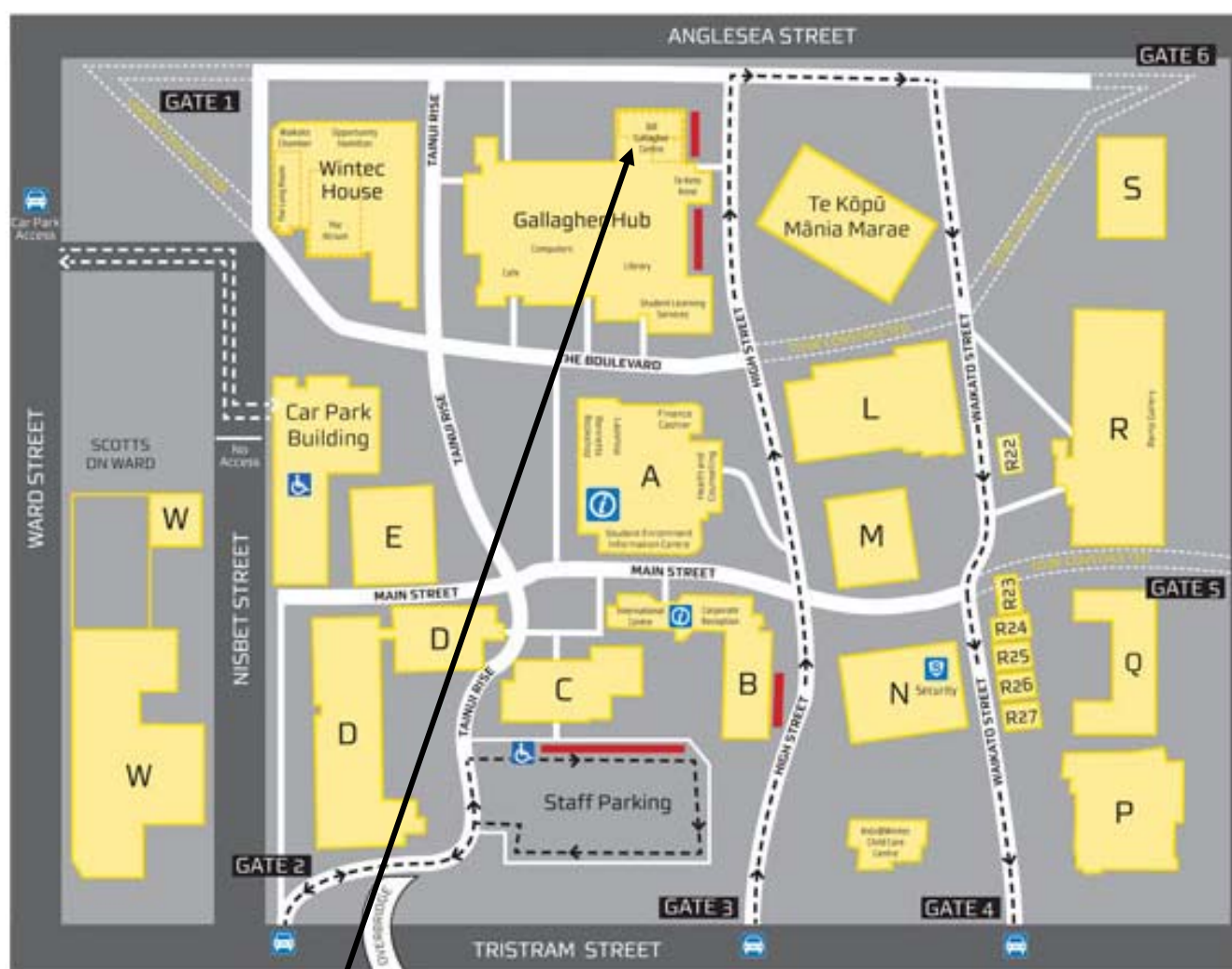
CENTRE DIRECTOR

CENTRE FOR BUSINESS, INFORMATION TECHNOLOGY & ENTERPRISE

# CAMPUS MAP

## Venue: Events 1

(Entry through Gate 3. Reserve parking outside the Gallagher Hub.)



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## Student Projects presented in The Long Room

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# STUDENT PROJECTS 2017

**Monday 20<sup>th</sup> November 2017**

**Venue: Gallagher Hub, Events room 1**

## **Session 1 – 8.00am to 9.00am**

**Nicholas Robinson** (*Business Enhancements at PB Technologies*)

**Paul Thomas** (*Internship at PC Hardware*)

**Nicholas Scott, Gareth Tobin, Thomas Weake** (*DRP Studios Software Ecosystem (Unreal Engine)*)

**Regan Thomas & Benjamin Weake** (*Atrax Drilling Equipment Mobile Application (Android)*)

## **Session 2 – 9.00am to 10.15am**

**Jairus Redshaw** (*Lockdown Launcher*)

**Tyler Barham** (*Internship at SwiftlyDeft (Golang, Facebook, AI)*)

**Cameron Shaw** (*Reusable login system (Android, Golang)*)

**Shan Weeraratne** (*Booking systems for QA servers*)

**David Urwin & Wiremu Wallace**

## **Session 3 – 10.30am to 11.30am**

**Alistair Clark** (*Filemaker and Power BI Development*)

**Connor Hall** (*Wintec Virtual Mapping Application & ITS Internship*)

**Campbell Reid** (*Chorus System Security Access Audit & Standardization*)

**Chris Villavarayan** (*Tracking Outcomes from SharePoint through Power-BI*)

**Jamie Hitchens** (*Leap Motion as a user interface*)

***Please be punctual***  
***Each session starts on time***

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# Maathangi Parthasarathi



**Date and Time:** Tuesday 26th June 2018, 10:00am—10:35am  
**Project Type:** Internship – CRM Implementation  
Effective use of Information Technology in  
Epilepsy New Zealand (ENZ)  
**Client Company:** Epilepsy New Zealand  
Contact: Leon Tepania  
**Project Supervisor:** Arthur Do Valle

The organization under consideration for the presentation is Epilepsy New Zealand (ENZ), a non-profit organization which aims at providing a better standard of living for people living with epilepsy in New Zealand.

This presentation will summarize the findings made and the work done in the organization as an intern. Initially the various elements of IT that is present in the organization and its influence on ENZ operations will be discussed. Further, the policies and procedures that help in managing the IT functions of the organization are discussed.

Since the organization does not have existing IT policies and procedures in place, recommendations have been made for the same. The existing Customer Relationship Management (CRM) tool used does not meet the requirements of the organization and the support from the vendor is inefficient. Hence an open source solution, CiviCRM has been suggested and implemented to manage the client data. An overview of the CRM tool, its functionalities, and how it influences the organization will also be discussed in the presentation.

# Bennina Thomas Rajan



**Date and Time:** Tuesday 26th June 2018, 10.35am—11.10am  
**Project Type:** Internship – Mobile Application development (Android)  
Analysis and Management of Information Technology in Epilepsy New Zealand (ENZ)  
**Client Company:** Epilepsy New Zealand  
Contact: Leon Tepania  
**Project Supervisor:** Arthur Do Valle

Epilepsy New Zealand is a non-profit organization which helps to achieve a positive quality of life for people living with epilepsy. This presentation is to share my internship learning experience with Epilepsy NZ.

The organization uses information technology extensively to deal with customers and for internal accounts management. The presentation gives an overview of information technology elements used by the organization along with the opportunities for improvement.

There are no policies or procedures in the organization to manage the use of information technology. Hence the need for policies and procedures, recommendation, frameworks and the benefits of adopting the policies are discussed.

To address the strategic need of interacting with the customers, a mobile application is recommended and implemented. The summary of mobile application design, elements, database and development are presented.

# Malik Zeeshan Murtaza Awan



**Date and Time:** Tuesday 26th June 2018, 11.10am—11.45am  
**Project Type:** IT Infrastructure  
**Client Company:**  
**Project Supervisor:** Contact:  
Dileep Rajendran

# Praneema Krishnakumar



**Date and Time:** Tuesday 26th June 2018, 11.45am—12.15pm  
**Project Type:** Project management software  
(Project management, transition, training and support, Trello, NAS)  
**Client Company:** Classic Events  
Contact: Michele Connell  
**Project Supervisor:** Dileep Rajendran

To setup a project management software system that will reduce the administration efforts of Classic Events and would be the centre to access all events, logistics, sponsors and key information.

- Technological research by studying organization goals, strategies, practices, and user projects and recommend project management software.
- Accomplish results by communicating job scope: planning, initiating, coordinating, monitoring training, and support
- preserves assets by implementing disaster recovery and back-up procedures and information security and controls.



# Sadeq Alamari

**Date and Time:** Tuesday 26th June 2018, 1.05pm—1.17pm  
**Project Type:**  
**Client Company:**  
**Project Supervisor:** Contact:  
Sue Beale

# Ashton Church



**Date and Time:** Tuesday 26th June 2018, 1.17pm—1.29pm  
**Project Type:** Music Streaming Mobile application for Android  
**Client Company:**  
**Project Supervisor:** Contact:  
Chris Burrell

My task was to build a music streaming application for android while working in conjunction with the Wintec school of media arts, the school of business and information technology and the Wintec company SODA. The application uses art and music assets created and composed by Wintec students at the school of Media Arts, as well as Databases and servers created and hosted by SODA.

The Client was looking for a mobile application that would allow the user to play music composed by Wintec students and store them on an online Wintec database. The application was required to use appropriate graphics that reflect the contemporary Maori values in relation to Matariki, use a clear hierarchical interface and incorporate force feedback throughout the track selection process.

The purpose of this project was to create a proof of concept prototype of the Matariki Waka Sound Streaming App, which in future will interface with the Matariki Waka instillation speakers and lighting systems.

# Jaspreet Kaur



**Date and Time:** Tuesday 26th June 2018, 1.29pm—1.41pm  
**Project Type:** Design Factory Project (Data Representation) and Waikato Regional Council Mini Internship  
**Client Company:** Waikato Regional Council contact: Paul Kennett  
Design Factory contact: Margi Moore  
**Project Supervisor:** Chris Burrell

My Project was with Wintec Design factory and Design Factory course enables students to engage in the non-linear process that is design thinking, to solve industry problems. For this we are working in groups with Waikato Regional Council.

In the Design Factory project, I worked in a team. My team members are Kris Moore, Chloe Davies and Fangzhou Ruan. We are solving the Waikato Regional Council problem 'How might we present water-related data that is relevant, clear and engaging to the general public of Waikato region? In the end we came up three solutions and that are: a new website, recreational spaces and marketing campaign.

My Internship was with Waikato Regional Council (Environmental Monitoring section) which is an organisation about that manage and protect our region's land, water, air, soil geothermal resources and coastal. Environmental Monitoring section test the rainfall, rivers, lakes and coastal water to check the water quality.

Throughout the internship, I worked on Promapping, Skype phone calling regarding flood alarms feedback, entering ground water records into Excel spreadsheet and editing old data into sampler.

The internship and project were linked so that I could feedback information from WRC into the Design Factory project if and when required.

# Sumeet Nittin Sharma

**Date and Time:** Tuesday 26th June 2018 1.41pm—2.05pm  
**Project Type:** Internship— Intranet Solution  
**Client Company:** Tui Medical Limited  
Contact: Frank Chen  
**Project Supervisor:** Chris Burrell

This year I have been given an opportunity to intern for IT Support at Tui Medical. Tui Medical is a small – mid size organisation ideally structured for general practice and urgent care. It is a great honour to work with the IT team which focuses heavily on System / Network and Server administration.

As an IT intern, my responsibilities are providing technical support relating to Medtech (medical software), Active Directory, Printer issues, onsite support and any networking issues by phone and using remote access. About 90% of the phone calls are from internal staffs from clinical to admin users.

Researching a “New Intranet solution” is my mini project for this internship. The new intranet solution will replace the current system SharePoint 2003. To find a suitable system I had to consider that the new system has the required features, system compatibility and is cost efficient. My mini project became more challenging since my search was narrowed down significantly by the IT manager’s and Tui management’s requirements.

# Ally Tiang



**Date and Time:** Tuesday 26th June 2018, 2.05pm—2.20pm  
**Project Type:** Goal tracker application's systems architectural plan  
**Client Company:**  
**Project Supervisor:** Contact: Chris Burrell

The Design Factory is a place to further expand and develop my skills as well as capitalizing on my strengths.

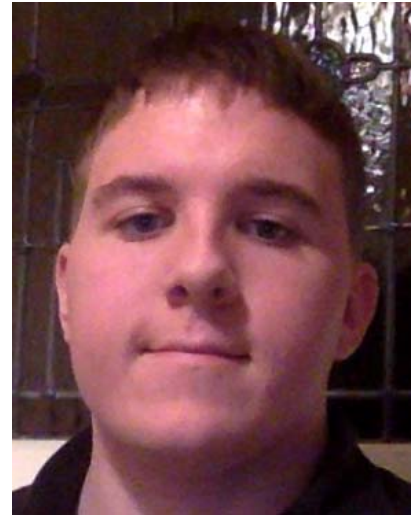
The highlight of the experience with the design factory involved:

- Collaboration and co-creation with other like-minded people from various disciplines (business, media arts, engineering, sports and more).
- Embracing the opportunity to work with our industry client (Habitat for Humanity CNI)
- They are currently looking for ways to make the managing of the inventories of overwhelming stockpiles of donated goods more efficient and manageable.

The mini project - Dr Annick Janson (PhD and client) is a contractor who is working closely with facilitators using an excel spreadsheet to track learning progress and goals set for the children by the families. Dr Janson is looking forward to seeing a hypothetical systems architectural design plan for a mobile application that would support these activities.

- The phone application would effectively replace the previous system (which solely involves using the excel spreadsheet as a goal tracker).
- The proposed system would release the facilitators from the task of updating the information as it would be entered directly into the phone app by the families and from there automatically uploaded into a database.
- This system would enable the contractors and facilitators to monitor and work with the mobile application in real time.

# Francis Hassall



**Date and Time:** Tuesday 26th June 2018, 2.20pm—2.32pm  
**Project Type:** Research and Analysis of learning Software  
**Client Company:** Hamilton Boys' High School  
Contact: Stephen Hobdell  
**Project Supervisor:** Andy Fendall

Hamilton Boys High School is a secondary school located in Hamilton that will teach Students from the years 9 – 13. HBHS offers various subjects to students to best prepare them for the future including the chance for both NCEA and Cambridge exams and Scholarships.

For my Internship Hamilton Boy's High had asked me to research and look into the software that is used and to make sure all devices are updated and in working order. It was my duty to:

- Research the Current software that is being used by classrooms within the School (Adobe, Solidworks) to find out how they are used.
- Analyze different software to find alternatives that could potentially benefit classrooms.
- Compare different programs through different factors (Price, Size, Advantage/Disadvantage).
- Maintain and update hardware in a classroom setting.

The purpose of this project was to update and manage the hardware that is used around the school as well as to analyse the current software. The research Software included the Adobe design Suite (Photoshop, Illustrator, InDesign as well as more specialized programs such as Solidworks. The project was primarily researching and analysing the implementation of different software that could be used in the Classroom environment and offering alternative programs that could be used instead.

# Meredith Hassall



**Date and Time:** Tuesday 26th June 2018, 2.32pm—2.44pm  
**Project Type:** Analysis and Improvement of School Wi-fi  
**Client Company:** Hamilton Boys' High School  
Contact: Stephen Hobdell  
**Project Supervisor:** Michael Warren

Hamilton Boys High School (HBHS) is a Hamilton based secondary school that educate and assist students in preparation for Polytech/University offering both NCEA and Cambridge HBHS is a School that offers multiple venues for students to go.

HBHS as an Internship asked me to look at their WiFi and find anyway to improve the connection throughout the school, they wanted me to:

- Analyse and compare the types of control systems (*Cloud managed/On Premises*) to find the advantages and disadvantages of each.
- Research and compare WiFi systems eg. Aerohive/Meraki/Ruckus and find the Pros/Cons of each system.
- Research tools/apps that are used to help you debug/ find and removing dead spots to improve connectivity issues around the school
- Find out which WiFi Network is the most popular through research on the internet and other forums.

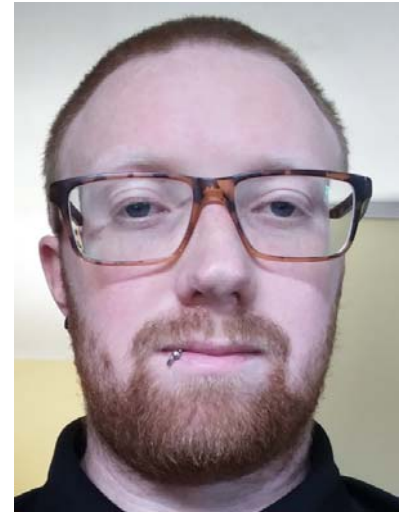
The purpose of the project was to research and compare Wifi Network systems to find out which would be better for the school, The network software companies that were researched were Aerohive, Cisco Meraki and Ruckus Networks. The project was primarily research about different networks and finding ways to improve the wifi throughout the school.

# Felicity Stewart

**Date and Time:** Tuesday 26th June 2018, 2.44pm—2.56pm  
**Project Type:**  
**Client Company:**  
**Project Supervisor:** Contact:  
Diab Abuaiadah



# Michael Kenney



**Date and Time:** Tuesday 26th June 2018, 2.56pm—3.15pm  
**Project Type:** System Centre Configuration Manager Virtual Network Video Tutorials  
**Client Company:** Wintec  
Contact: Dileep Rajendran  
**Project Supervisor:** Dileep Rajendran

My project is an easy to follow set of video guides, designed for IT students to learn how to build an enterprise-wide level network that is managed by a Microsoft SCCM (System Center Configuration Manager) server.

With my method students will be able to build a joinable domain that provides DHCP, DNS, SQL Server and SCCM, from Windows 10 laptop or desktop. This has been achieved by utilising the virtualisation software VMware Workstation Pro to build the required Windows Servers from software instead of hardware servers that are expensive and take up a lot of room.

SCCM is very complex to configure correctly but is a very powerful system management tool, which provides administrators with a centralised point to manage all computers connected to the network.

Students will be able to create and deploy specific images remotely for Microsoft systems. SCCM will be used for task sequencing, software updates, security, mobile devices, pre-staging, remote control and network queries.

After completing the lessons students will have a good understanding of how to configure and administer a large-scale enterprise network that could have thousands of client computers managed by a single configuration point.

# Notes